

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-20 have been amended and claim 21 has been added as follows:

Listing of Claims:

Claim 1 (currently amended): ~~A DNA library for the production of a library of double stranded RNA molecules of a predefined length in the range of 10-30 base pairs in living cells, wherein the sequence(s) of the DNA region (or regions) encoding the double stranded part of double stranded RNA molecule(s) is randomized in all nucleotide positions, and wherein both strands of said double stranded RNA molecule is produced from a single member of the DNA library~~
DNA-library for production of a library of double stranded RNA-molecules (dsRNA) of a predefined length, the library consisting of double stranded DNA-molecules (dsDNA) where each dsDNA comprise a stretch wherein both strands contiguously encode a promoter, a dsRNA-encoding sequence of 10-30 base pairs encoding the dsRNA to be produced and a transcription termination sequence, wherein each of said promoters has been mutated to include the sequence complementary to the termination sequence of the other strand.

Claim 2 (currently amended): ~~A DNA library for the production of a library of double stranded RNA molecules of a predefined length in the range of 19-30 base pairs in living cells, wherein the sequence(s) of the DNA region (or regions) encoding the double stranded part of dou-~~

~~ble stranded RNA molecule (s) is randomized in at least 19 nucleotide positions, and wherein both strands of said double stranded RNA molecule is produced from a single member of the DNA library~~
DNA-library according to claim 1, wherein said promoters are H1-promoters or U6-promoters that have been mutated so as to incorporate an AAAAAA-stretch at the end of the promoter, immediately next to the transcription starting site.

Claim 3 (currently amended): ~~A DNA library for the production of a library of double stranded RNA molecules of a predefined length in the range of 15-30 base pairs in living cells, wherein the se- quence (s) of the DNA region (or regions) encoding the double stranded part of dou- ble stranded RNA molecule (s) is randomized in at least 15 nucleotide positions, and wherein both strands of said double stranded RNA molecule is produced from a single member of the DNA library~~
DNA-library according to claim 1, wherein said dsRNA-encoding sequence is randomized in between 4 and all positions.

Claim 4 (currently amended): ~~A DNA library for the production of a library of double stranded RNA molecules of a predefined length in the range of 10-30 base pairs in living cells, wherein the se- quence (s) of the DNA region (or regions) encoding the double stranded part of dou- ble stranded RNA molecule (s) is randomized in at least 4, 7 or 10 nucleotide posi- tions, and wherein both strands of said double stranded RNA molecule is produced from a single member of the DNA library~~
DNA-library according to claim 1, wherein the produced dsRNA contains a single stranded region at one end.

Claim 5 (currently amended): ~~A DNA library for the production of a library of double stranded RNA molecules of a predefined length in the range of 10-30 base pairs in living cells; wherein the sequence(s) of the DNA region (or regions) encoding the double stranded part of double stranded RNA molecule (s) is randomized in 4 to all nucleotide positions, and wherein both strands of said double stranded RNA molecule is produced from a single member of the DNA library~~ DNA-library according to claim 1, wherein the produced dsRNA contains single stranded regions at both ends.

Claim 6 (currently amended): ~~A DNA library of any of the claims 1 to 5, wherein said double stranded RNA molecules also contain single stranded region (s) at one end or both ends of the molecules~~ DNA-library according to claim 4, wherein at least one of the single stranded regions of the dsRNA is a poly-U overhang.

Claim 7 (currently amended): ~~The DNA library of any of the claims 1 to 6, wherein each member of the DNA library contains one promoter for transcription of the double stranded RNA molecules and one terminator for transcription of the double stranded RNA molecules, and wherein the double stranded RNA is formed as a hairpin type double stranded molecule~~ A DNA-library according to claim 4, wherein at least one of the single stranded regions of the dsRNA is a UU overhang.

Claim 8 (currently amended): ~~The DNA library any of the claims 1 to 6, wherein each member of the DNA library contains at least two promoters for transcription of the components of the double stranded RNA molecules and two terminators for transcription of the components of the~~

~~double stranded RNA molecules, and wherein the double stranded RNA is formed by two separate RNA molecules that are complementary to each other in the double stranded region. A DNA-library according to claim 1, wherein it is constructed in a plasmid vector.~~

Claim 9 (currently amended): ~~The DNA library of claims 1 to 8, wherein the DNA library is constructed within a plasmid vector. A DNA-library according to claim 1, wherein it is constructed in a viral vector.~~

Claim 10 (currently amended): ~~The DNA library of claims 1 to 8, wherein the DNA library is constructed within a viral vector. A DNA-library according to claim 1, wherein the randomness of the library was modified by selection of the random DNA oligonucleotides, before cloning the said random DNA oligonucleotides into the vectors, through hybridization to a total RNA preparation or total mRNA preparation from a source, whereby only the oligonucleotides hybridized to the source RNA (or mRNA) are subsequently cloned into the vector, and wherein the source can be a cell, a cell line, a tissue, or a organism.~~

Claim 11 (currently amended): ~~A DNA library of claims 1 to 10 wherein the randomness of the library was modified by selection of the random DNA oligonucleotides, before cloning the said random DNA oligonucleotides into the vectors, through hybridization to a total RNA preparation or total MRNA preparation from a source, whereby only the oligonucleo- tides hybridized to the source RNA (or MRNA) are subsequently cloned into the vec- tor, and wherein the source can be a cell, a cell line, a tissue, or a organism.~~ kit containing the DNA-library according to claim 1.

Claim 12 (currently amended): ~~A kit containing the DNA library of any of the claims 1 to 11.~~ An RNA-library obtained from the DNA-library according to claim 1.

Claim 13 (currently amended): ~~A method of constructing a DNA library of any of the claims 1 to 6, and 8 to 11 wherein a pair of mutated H1 promoters are placed in opposite directions to drive the RNA expression from the DNA fragment inserted between the two promoters, wherein the said mutated H1 promoter differs from the wild type H1 promoter in at least the sequence of the 5-nucleotide region immediately ahead of the transcription starting site. The said 5-nucleotide region of the mutated H1 promoter is AAAAAA.~~ using the DNA-libraries of claim 1, wherein the library is transiently or permanently introduced into cells as a mixture.

Claim 14 (currently amended): ~~An RNA library obtained from the DNA library of any of the claims 1-12, wherein the length of double stranded RNA produced is in the range of 10 to 30 nucleotides.~~ A method of screening for double stranded RNA with biological functions comprising the use of the DNA-library according to claim 1.

Claim 15 (currently amended): ~~A method of using the DNA libraries of any of the claims 1 to 12, wherein the library is transiently or permanently introduced into cells as a mixture.~~ screening for novel genes comprising the use of the DNA-library according to claim 1.

Claim 16 (currently amended): ~~A method of using the DNA library of claims 1 to 12 to screen for double stranded RNA with biological functions.~~ An individual DNA-member of the DNA-library according to claim 1.

Claim 17 (currently amended): ~~A method of using the DNA library of claims 1 to 12 to screen for novel genes.~~ An individual RNA-member of the RNA-library according to claim 12.

Claim 18 (currently amended): ~~A novel gene obtained by the methods of any of the claims 15 to 17.~~ Use of a DNA-molecule comprising the DNA-sequence AAAAA(N)_nTTTTT, wherein (N)_n is a randomized region of 19, 20 or 21 nucleotides, in the production of dsRNA-molecules.

Claim 19 (currently amended): ~~A novel function of a gene obtained by methods of any of the claims 15 to 17.~~ An H1 RNA-polymerase III-promoter mutated to have and AAAAA-stretch at the end of the promoter immediately ahead of the transcription starting site.

Claim 20 (currently amended): ~~A pharmaceutical composition obtainable by the methods of any of the claims 15 to 17.~~ plasmid with two mutated RNA polymerase III promoters, each embedding one transcription termination sequence for the other promoter, and a siRNA-encoding region between the promoters.

Claim 21 (new): Any polymerase III-promoter mutated to have an AAAAA-stretch at the end of the promoter immediately ahead of the transcription starting site.